Grain prices and food crises in 14th century Flemish cities (1280-1370)

STEF ESPEEL

ESSHC BELFAST – SESSION SHOCK CITIES (6 APRIL 2018)
Introduction

Overview:

• Introduction

• Shock Cities
  • Character different case-studies
  • Sources

• Long term price movements
  • 1280-1370
  • General course

• Short term price movements
  • Focus on price peaks

• Concluding remarks
Introduction

- Vulnerability 14th century Flemish cities – no demographic decline?
- FAD vs. FED
  -> Co-production of food crises
- Malthusian Null-Hypothesis
- Focus: chronology of the price peaks and food crises
Shock Cities


• Flemish cities
  • Extremely rapid growth & structural transformation (12th – 13th century)
  • Potential vulnerability towards food shocks

• Bruges – Ghent – Lille – Douai – Cambrai

Shock Cities

• Character of hinterland
  • Peasant agriculture vs. agrarian specialisation

• Degree of political power
  • Inclusive regimes vs. patrician autocracy
  • Political autonomy vs. territorial lords

• Connection to international markets
  • International gateway vs. regional distribution
Sources

• Representative sample for the general population

• Account series
  • Caritative institutions: hospitals in particular
  • Collegial church chapters
  • Abbeys
Presentation of preliminary results. Please do not cite or distribute

Sources – institutions

• Bruges
  • Hospital Saint-John
  • Hospital Our Lady *ter Potterie*
  • Chapter Saint-Donatian
  • Memorial Simon de Rikelike

• Ghent
  • Chapter Saint-Nicolas
  • Chapter Saint-Veerle
  • Chapter Our-Lady-Saint-Peter
  • Abbey Saint-Peter
  • Abbey Saint-Bavo

• Lille
  • Hospital Saint-Sauveur
  • Chapter Saint-Peter

• Douai
  • Chapter Saint-Amé
  • Abbey *des Prés*
  • Hospital Wetz

• Cambrai
  • Metropolitan Chapter of Our Lady
  • Chapters Saint-Croix & Saint-Géry
  • Hospital Saint-Julian
  • Abbey Saint-Sépulchre
Long term price movements

• Differences in measures and coinage systems
  • All prices in: d.gr. (vl./torn.) / hectolitres
  • Long term inflation not excluded

• Comparing wheat prices
  • Insufficient data for all the other grain types
  • Main bread cereal
  • Other grain types usually followed this trend
Wheat price in Flemish cities, 1280-1375 (d.gr./hl.)

Presentation of preliminary results. Please do not cite or distribute

Wheat price in Flemish cities, 1349-1375 (gr. silver/hl.)

Average relative differences

• First glance: same course of the five series

• Comparing the series: rows compared to columns
  • Results (%):

<table>
<thead>
<tr>
<th></th>
<th>Bruges</th>
<th>Ghent</th>
<th>Lille</th>
<th>Douai</th>
<th>Cambrai</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruges</td>
<td>100,00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ghent</td>
<td>-26,75</td>
<td>100,00</td>
<td></td>
<td></td>
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<tr>
<td>Lille</td>
<td>-19,83</td>
<td>4,09</td>
<td>100,00</td>
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<tr>
<td>Douai</td>
<td>-37,02</td>
<td>-12,07</td>
<td>-15,46</td>
<td>100,00</td>
<td></td>
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<tr>
<td>Cambrai</td>
<td>-74,32</td>
<td>-39,55</td>
<td>-50,35</td>
<td>-29,56</td>
<td>100,00</td>
</tr>
</tbody>
</table>

• Bruges highest overall (26,8% on Ghent and 19,8% on Lille etc.)

• Ghent and Lille followed closely, in favour for Lille (4,1% higher than Ghent)

• Douai lower and Cambrai lowest
Correlation coefficient

- Parallel course of wheat price series
- In what degree are series correlated to each other? Doesn’t imply a causal relation!
  - Results:

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</tr>
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<tbody>
<tr>
<td>Bruges</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Ghent</td>
<td>0,926718</td>
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<tr>
<td>Lille</td>
<td>0,916245</td>
<td>0,926468</td>
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<tr>
<td>Douai</td>
<td>0,828163</td>
<td>0,863255</td>
<td>0,923455</td>
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<td></td>
</tr>
<tr>
<td>Cambrai</td>
<td>0,813699</td>
<td>0,841455</td>
<td>0,894194</td>
<td>0,870104</td>
<td>1</td>
</tr>
</tbody>
</table>

- Category ]0,9 – ]1:
  - Bruges – Ghent; Bruges – Lille; Ghent – Lille; Lille – Douai

- All relations above 0,81
Short term price movements

• Also only wheat prices -> most detailed

• Selection of price peak periods

• Methodology: including all institutions of all cities -> regional food shocks
  • 1. Average price of harvest years
    • A. From monthly means
    • B. From annual means
  • 2. Relative price difference compared to previous 5 years
    • A. From the average price of harvest years derived from monthly means
    • B. From the average price of harvest years derived from annual means
  • 3. Limit value: price raise of 30% for a minor shock, 50% for a major shock

• Before 1349: calculations with d.gr./hl.; After 1349: calculation with gr.silver/hl.
Periods of price peaks

- 8 peak periods throughout the whole period:
  - 1292-93
  - 1302-04
  - 1314-16
  - 1321-23
  - 1328-30
  - 1339-43
  - 1348-52
  - 1356-61
Periods of price peaks

• 1292-93
  • +35.10%

• 1302-04
  • +54.35% and +43.07%
  • Franco-Flemish War (1297-1305)
  • Battle of the Golden spurs (11 July 1302)
  • 1305: Athis-sur-Orge: Lille/Douai/Orchies to French kingdom

-> Peaks based on small amount of data
Periods of price peaks

- 1314-16
  - +145,94% and +119,8% (highest in 14th century)
  - The Great Famine
    - actually 1315-17, but skewed because of the yearly averages & starting/ending date of the accounts
  - Back to back harvest failures because of heavy rainfall
  - Only data for Bruges (Saint-John) and Douai (Saint-Amé)
    - Bruges hit harder? Staple right Douai? Or just because trading character of Bruges?

Periods of price peaks

• 1321-1323
  • +30,67 and +31,3% (based on annual means)
  • Beginning of Peasants Revolt in coastal Flanders? Heavy taxation of the count
  • Weather anomalies?

• 1328-1330
  • +57,04% and +75,63% (based on monthly means)
  • End of Peasants Revolt in coastal Flanders: battle of Cassel (August 1328)
  • Repression by the count?
  • Weather anomalies?
### 1339-1343

<table>
<thead>
<tr>
<th>Harvest year</th>
<th>Monthly avg.</th>
<th>Rel. diff. With previous 5 years (monthly avg.)</th>
<th>Annual avg.</th>
<th>Ref. diff. With previous 5 years (annual avg.)</th>
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<tbody>
<tr>
<td>1339-1340</td>
<td>16.28</td>
<td>99.94</td>
<td>12.68</td>
<td>47.64</td>
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<tr>
<td>1340-1341</td>
<td>11.80</td>
<td>18.79</td>
<td>13.17</td>
<td>39.66</td>
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<tr>
<td>1341-1342</td>
<td>16.57</td>
<td>55.55</td>
<td>17.46</td>
<td>70.76</td>
</tr>
<tr>
<td>1342-1343</td>
<td>16.11</td>
<td>33.04</td>
<td>15.80</td>
<td>31.14</td>
</tr>
</tbody>
</table>

- **Hundred Years’ War**
  - England vs. France -> strategic importance of Walloon Flanders
  - 1339: Siege of Cambrai
  - 1340: Battle of Sluys
  - Bruges/Ghent: anglophile ‘Artevelde-regime’
Presentation of preliminary results. Please do not cite or distribute

1. Introduction
2. Shock Cities
3. Long term price movements
4. Short term price movements
5. Conclusion
1348-1352

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<tr>
<td>1348-1349</td>
<td>24,09385</td>
<td>32,81845</td>
<td>32,84775</td>
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<td>1349-1350</td>
<td>36,47108</td>
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<td>31,98997</td>
<td>33,59472</td>
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<tr>
<td>1350-1351</td>
<td>29,91723</td>
<td>32,35477</td>
<td>35,30831</td>
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<td>1351-1352</td>
<td>41,36436</td>
<td>62,29095</td>
<td>36,44491</td>
<td>20,49589</td>
</tr>
</tbody>
</table>

- Black Death
  - Crimea (1347) -> Italy -> northwestern-Europe (1348)
  - Fleas on rats & humans

- Coin revaluations
  - 1350, 1352
1356-1361

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<td>1356-1357</td>
<td>27,60547</td>
<td>11,07297</td>
<td>35,30459</td>
<td>35,60327</td>
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<tr>
<td>1357-1358</td>
<td>35,26615</td>
<td>59,56325</td>
<td>37,24418</td>
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<td>1358-1359</td>
<td>32,6073</td>
<td>32,72297</td>
<td>36,33576</td>
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<td>1359-1360</td>
<td>44,35202</td>
<td>59,8908</td>
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<td>1360-1361</td>
<td>58,9931</td>
<td>77,74848</td>
<td>45,02639</td>
<td>21,25596</td>
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</tbody>
</table>

- 1360: Return of the plague (1360-61)
  - Blockmans: more severe than Black Death!
1356-1361

Presentation of preliminary results. Please do not cite or distribute
Quod 1369-71?

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<td>1368-1369</td>
<td>33,46219</td>
<td>-17,1412</td>
<td>41,85776</td>
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<td>1369-1370</td>
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<td>28,06244</td>
<td>44,6323</td>
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<tr>
<td>1370-1371</td>
<td>37,49684</td>
<td>-6,85777</td>
<td>38,00383</td>
<td>-9,59072</td>
</tr>
</tbody>
</table>

- 1369: Return of the plague (1369-1370)
- 1369: Marriage of Philip the Bold and Margaret of Flanders
  - Walloon Flanders back to the county of Flanders
  - Influence on price?
- Price peak not so severe!

Illumination from the *Grandes Chroniques de France* showing Philip marrying Margaret of Flanders in 1369 (Source: https://www.historytoday.com/richard-cavendish/philip-bold-becomes-duke-burgundy)
Presentation of preliminary results. Please do not cite or distribute

1364-1371

Grafiektitel

Conclusion

• Newly constructed price series detailed & useful, especially from 1320 onwards

• Bruges highest series on long term & most of the peaks
  • Followed by Ghent/Lille, then Douai, Cambrai the lowest

• All the series are remarkably parallel to each other
  • Already high degree of market integration

• Black Death as transition event from quasi-stable price periods (e.g. 1330-1339) to a very volatile course
Questions?

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